

What is claimed is:

1. An image forming apparatus administration system,
comprising:

an image forming apparatus, located in a first local network and connected to the Internet through a first firewall server of said first local network;

an administration apparatus, located in a second local network and connected to the Internet through a second firewall server of said second local network;

a relaying server, located outside said first local network and said second local network, connected to the Internet and including a relaying storage;

wherein said administration apparatus at least transmits first passing information for administrating said image forming apparatus by accessing said relaying server or receives second passing information, corresponding a state of said image forming apparatus and stored in said relaying storage of said relaying server; and said image forming apparatus executes an access to said relaying server at a predetermined timing so as at least to obtain said first passing information, stored in said relaying storage, or to transmit said second passing information.

2. The image forming apparatus administration system of claim 1, wherein said first passing information includes ID information, corresponding said image forming apparatus, and job information, for making said image forming apparatus a predetermined action; and said image forming apparatus, identified with said ID information, executes said predetermined action according to said job information.

3. The image forming apparatus administration system of claim 2, wherein said job information is transmission command information for requesting said image forming apparatus to transmit said second passing information to said relaying server.

4. The image forming apparatus administration system of claim 3, wherein said second passing information is inherent data of said image forming apparatus.

5. The image forming apparatus administration system of claim 2, wherein said job information includes at least an updating program or updating data for controlling said image forming apparatus; said image forming apparatus includes an administrated storage for storing at least a program or data; and said image forming apparatus rewrite said program or said

data, stored in said administrated storage, with said updating program or updating data of said job information in response to a receipt of said job information.

6. The image forming apparatus administration system of claim 5, wherein said image forming apparatus obtains said updating program or said updating data by downloading from said relaying server.

7. The image forming apparatus administration system of claim 5, wherein said image forming apparatus suspends an access to said relaying server while said updating program or updating data is rewrote in said image forming apparatus.

8. The image forming apparatus administration system of claim 1, wherein said second passing information is inherent data of said image forming apparatus.

9. The image forming apparatus administration system of claim 8, wherein said inherent data includes usage history information of said image forming apparatus.

10. The image forming apparatus administration system of claim 9, wherein said image forming apparatus counts at least

one of (1) a number of image formation, (2) a number of usage of at least one component constituting said image forming apparatus, (3) a number of image formation for each size of a recording medium, (4) a number of image-formed recording medium, and (5) a number of image formation for each function owned by said image forming apparatus so as to obtain a count number; and said image forming apparatus transfers said count number to said relaying server as said inherent data.

11. The image forming apparatus administration system of claim 8, wherein said inherent data is emergency information based on errors occurred in said image forming apparatus.

12. The image forming apparatus administration system of claim 11, wherein said image forming apparatus further comprising:

a detecting means for detecting said errors occurred in said image forming apparatus; and

a decision-making means for determining whether said errors, detected by said detecting means, require urgent attention;

wherein said image forming apparatus transfers said emergency information to said relaying server when said errors are determined to require urgent attention.

13. The image forming apparatus administration system of claim 8, wherein said image forming apparatus includes an administrated storage for storing said inherent data which is transmitted to said administration apparatus; and said image forming apparatus transmits said inherent data, stored in said administrated storage, to said relaying server according to said first passing information.

14. The image forming apparatus administration system of claim 8, wherein said image forming apparatus suspends an access to said relaying server while said second passing information is transmitted to said relaying server.

15. The image forming apparatus administration system of claim 1, wherein said relaying storage stores a plural pieces of said first passing information.

16. The image forming apparatus administration system of claim 15, wherein said first passing information includes object device ID information for identifying said image

forming apparatus, to which said first passing information is transferred; said image forming apparatus executes an access to said relaying server so as to determine whether to obtain said first passing information according to said object device ID information, stored in said relaying storage; and said image forming apparatus obtains said first passing information, stored in said relaying storage, when it is determined to obtain said first passing information.

17. The image forming apparatus administration system of claim 1, wherein said image forming apparatus executes an access to said relaying server according to said predetermined timing.

18. The image forming apparatus administration system of claim 17, wherein said predetermined timing is at least one of timing conditions at a predetermined time interval, a predetermined time of the day, at a predetermined timing, and a timing that a predetermined condition is satisfied.

19. The image forming apparatus administration system of claim 1, wherein one of said administration apparatus, which transmits said first passing information, and said image forming apparatus, which transmits said second passing

information, executes an access to said relaying server for confirming that said relaying server receives normally said first passing information or said second passing information.

20. The image forming apparatus administration system of claim 19, wherein one of said administration apparatus and said image forming apparatus transmits again said first passing information or said second passing information when said relaying server does not receive normally said first passing information or said second passing information.

21. The image forming apparatus administration system of claim 1, wherein said relaying server changes information to transmit to said administration apparatus according to the state whether said image forming apparatus receives said first passing information and whether said image forming apparatus performs a predetermined action according to said first passing information.

22. The image forming apparatus administration system of claim 21, wherein said image forming apparatus transmits a report, for notifying a completion of a predetermined operation, to said relaying server; and said administration apparatus administrates the state of said image forming

apparatus by accessing said relaying server at a predetermined timing.

23. The image forming apparatus administration system of claim 1, wherein there is a plurality of relaying servers, each of which has the same function of said relaying server.

24. The image forming apparatus administration system of claim 23, wherein said image forming apparatus executes an access to a first relaying server, which is predetermined from said plurality of relaying servers; and said image forming apparatus executes an access to a relaying server, which is selected from said plurality of relaying servers other than said first relaying server, when said access to said first relaying server is not possible.

25. The image forming apparatus administration system of claim 1, wherein said relaying server further comprising:

- a child relaying server having a child relaying storage; and

- a parent relaying server having a parent relaying storage;

- wherein said image forming apparatus executes an access to said child relaying server through the Internet so as to

obtain information stored in said child relaying storage or transmits said second passing information to said child relaying server; said administration apparatus executes an access to said parent relaying server through the Internet so as to obtain information stored in said parent relaying storage or transmits said first passing information to said parent relaying server;

wherein said first passing information, transmitted from said administration apparatus, is transferred from said parent relaying server to said child relaying server and stored in said child relaying storage of said child relaying server; and said second passing information, transmitted from said image forming apparatus, is transferred from said child relaying server to said parent relaying server and stored in said parent relaying storage of said parent relaying server.

26. The image forming apparatus administration system of claim 25, wherein there is a plurality of image forming apparatuses, each of which has the same function of said image forming apparatus; and said child relaying server integrates a plural pieces of said second passing information transmitted from said plurality of image forming apparatuses so as to form an integrated second passing information and

transmits said integrated second passing information to said parent relaying server.

27. The image forming apparatus administration system of claim 25, wherein said first passing information includes object device ID information for identifying said image forming apparatus, to which said first passing information is transferred or child server ID information for identifying said child relaying server; said child relaying server executes an access to said parent relaying server so as to determine whether to obtain said first passing information, stored in said parent relaying storage, according to said object device ID information of said image forming apparatus, which performs an access to said child relaying server, or according to said child server ID information for identifying said child relaying server itself; and said child relaying server obtains said first passing information, stored in said parent relaying storage, when it is determined to obtain said first passing information.

28. The image forming apparatus administration system of claim 25, wherein said administration apparatus transmits updating relaying information, for rewriting a relaying program to control said child relaying server with an

updating relaying program, to said parent relaying server; and said child relaying server executes an access to said parent relaying server so as to obtain said updating relaying program and to rewrite said relaying program, stored in said child relaying server, with said updating relaying program.

29. The image forming apparatus administration system of claim 25, wherein said first passing information is transmission command information for having said image forming apparatus transmit said second passing information; said image forming apparatus transmits said second passing information to said child relaying server according to said transmission command information, obtained through said child relaying server; and said child relaying server transmits said second passing information, obtained from said image forming apparatus, to said parent relaying server.

30. The image forming apparatus administration system of claim 25, wherein there is a plurality of child relaying servers each of which has the same function of said child relaying server; said image forming apparatus executes an access to a first child relaying server, which is predetermined from said plurality of child relaying servers; and said image forming apparatus executes an access to a

child relaying server, which is selected from said plurality of child relaying servers other than said first child relaying server, or said parent relaying server when said access to said first child relaying server is not possible.

31. The image forming apparatus administration system of claim 30, wherein said parent relaying server integrates a plural pieces of said second passing information transmitted from said plurality of child relaying servers so as to form an integrated second passing information.

32. The image forming apparatus administration system of claim 25, wherein there is a plurality of parent relaying servers each of which has the same function of said parent relaying server; said child relaying server executes an access to a first parent relaying server, which is predetermined from said plurality of parent relaying servers; and said child relaying server executes an access to a parent relaying server, which is selected from said plurality of parent relaying servers other than said first parent relaying server, when said access to said first parent relaying server is not possible.

33. The image forming apparatus administration system of claim 25, wherein said child relaying server executes an access to said parent relaying server at a second predetermined timing.

34. The image forming apparatus administration system of claim 33, wherein said second predetermined timing is at least one of timing conditions at a predetermined time interval and a predetermined time of the day.

35. The image forming apparatus administration system of claim 1, wherein said image forming apparatus is connected with the Internet through a public line and a provider.

36. The image forming apparatus administration system of claim 1, wherein said image forming apparatus forms an image on a recording medium.

37. The image forming apparatus administration system of claim 36, wherein said image forming apparatus counts at least one of (1) a number of image formation, (2) a number of usage of at least one component constituting said image forming apparatus, (3) a number of image formation for each size of a recording medium, (4) a number of image-formed

recording medium, and (5) a number of image formation for each function owned by said image forming apparatus so as to obtain a count number; and said image forming apparatus transfers said count number to said relaying server as said second passing information.

38. An image forming apparatus for forming an image on a recording medium, comprising:

a communication means for executing an access to a relaying server, located in the Internet, through a local network where said image forming apparatus is connected;

a control means for controlling said communication means so as to receive a first passing information to administrate said image forming apparatus from a relaying storage of said relaying server by executing said access to said relaying server at a predetermined timing; and

said control means for controlling said communication means so as to transmit a second passing information, corresponding a state of said image forming apparatus, to said relaying server.

39. The image forming apparatus of claim 38, wherein said relaying server stores said second passing information,

transmitted from said image forming apparatus, in said relaying storage.

40. The image forming apparatus of claim 38, wherein said local network has a connection to the Internet through a firewall server.

41. The image forming apparatus of claim 38, wherein said first passing information includes object device ID information for identifying said image forming apparatus, to which said first passing information is transferred; said image forming apparatus executes an access to said relaying server so as to determine whether to obtain said first passing information according to said object device ID information, stored in said relaying storage; and said image forming apparatus obtains said first passing information, stored in said relaying storage, when it is determined to obtain said first passing information.

42. The image forming apparatus of claim 41, wherein said first passing information includes job information, for making said image forming apparatus a predetermined action; and said image forming apparatus executes said predetermined action according to said job information.

43. The image forming apparatus of claim 42, wherein said job information is transmission command information for requesting said image forming apparatus to transmit said second passing information to said relaying server.

44. The image forming apparatus of claim 43, wherein said second passing information is inherent data of said image forming apparatus.

45. The image forming apparatus of claim 42, further comprising:
an administrated storage for storing at least a program or data;
wherein said job information includes at least an updating program or updating data for controlling said image forming apparatus; and said image forming apparatus rewrite said program or said data, stored in said administrated storage, with said updating program or updating data of said job information in response to a receipt of said job information.

46. The image forming apparatus of claim 45, wherein said image forming apparatus obtains said updating program or said updating data by downloading from said relaying server.

47. The image forming apparatus of claim 38, wherein said second passing information is inherent data of said image forming apparatus.

48. The image forming apparatus of claim 47, wherein said inherent data includes usage history information of said image forming apparatus.

49. The image forming apparatus of claim 48, further comprising:

a counter means for counting at least one of (1) a number of image formation, (2) a number of usage of at least one component constituting said image forming apparatus, (3) a number of image formation for each size of a recording medium, (4) a number of image-formed recording medium, and (5) a number of image formation for each function owned by said image forming apparatus so as to obtain a count number; and said control means controls said communication means so as to transfer said count number to said relaying server as said inherent data.

50. The image forming apparatus of claim 47, wherein said inherent data is emergency information based on errors occurred in said image forming apparatus.

51. The image forming apparatus of claim 50, further comprising:

a detecting means for detecting said errors occurred in said image forming apparatus; and

a decision-making means for determining whether said errors, detected by said detecting means, require urgent attention;

wherein said control means controls said communication means so as to transfer said emergency information to said relaying server when said errors are determined to require urgent attention.

52. A relaying server, connected to the Internet, comprising:

a relaying storage for storing at least one of a first passing information to administrate an image forming apparatus and a second passing information corresponding a state of said image forming apparatus;

a communication means for executing an access to or for receiving an access from at least one of said image forming apparatus and an administration apparatus, both connected

directly or indirectly to the Internet, so as to transmit or receive at least one of said first passing information and said second passing information through the Internet;

a control means for controlling said communication means to transmit said first passing information, stored in said relaying storage, to said image forming apparatus or to receive said second passing information from said image forming apparatus and for controlling said relaying storage to store said second passing information when said communication means receives an access from said image forming apparatus; and

said control means for controlling said communication means to transmit said second passing information, stored in said relaying storage, to said administration apparatus or to receive said first passing information from said administration apparatus and for controlling said relaying storage to store said first passing information when said communication means receives an access from said administration apparatus.

53. The relaying server of claim 52, wherein said first passing information includes ID information, corresponding said image forming apparatus, and job information, for making said image forming apparatus a predetermined action.

54. The relaying server of claim 53, wherein said job information is transmission command information for requesting said image forming apparatus to transmit said second passing information to said relaying server.

55. The relaying server of claim 54, wherein said second passing information is inherent data of said image forming apparatus.

56. The relaying server of claim 53, wherein said job information includes at least an updating program or updating data for rewriting a program or data, stored in an administrated storage of said image forming apparatus.

57. The relaying server of claim 53, wherein said relaying storage stores a plural pieces of said first passing information.

58. The relaying server of claim 52, wherein said second passing information is inherent data of said image forming apparatus.

59. The relaying server of claim 58, wherein said inherent data includes usage history information of said image forming apparatus.

60. The relaying server of claim 58, wherein said inherent data is emergency information based on errors occurred in said image forming apparatus.

61. The relaying server of claim 52, further comprising:

a child relaying server having a child relaying storage; and

a parent relaying server having a parent relaying storage;

wherein said image forming apparatus executes an access to said child relaying server through the Internet so as to obtain information stored in said child relaying storage or transmits said second passing information to said child relaying server; said administration apparatus executes an access to said parent relaying server through the Internet so as to obtain information stored in said parent relaying storage or transmits said first passing information to said parent relaying server;

wherein said first passing information, transmitted from said administration apparatus, is transferred from said

parent relaying server to said child relaying server and stored in said child relaying storage of said child relaying server; and said second passing information, transmitted from said image forming apparatus, is transferred from said child relaying server to said parent relaying server and stored in said parent relaying storage of said parent relaying server.

62. The relaying server of claim 61, wherein there is a plurality of image forming apparatuses, each of which has the same function of said image forming apparatus; and said child relaying server integrates a plural pieces of said second passing information transmitted from said plurality of image forming apparatuses so as to form an integrated second passing information and transmits said integrated second passing information to said parent relaying server.

63. The relaying server of claim 61, wherein said first passing information includes child server ID information for identifying said child relaying server; said child relaying server executes an access to said parent relaying server so as to determine whether to obtain said first passing information, stored in said parent relaying storage, according to said child server ID information for identifying said child relaying server itself; and said child relaying

server obtains said first passing information, stored in said parent relaying storage, when it is determined to obtain said first passing information.

64. The relaying server of claim 61, wherein said first passing information includes updating relaying program for rewriting said relaying program to control said child relaying server.

65. The relaying server of claim 61, wherein there is a plurality of child relaying servers each of which has the same function of said child relaying server; said parent relaying server integrates a plural pieces of said second passing information transmitted from said plurality of child relaying servers so as to form an integrated second passing information.

66. An administration apparatus for administrating an image forming apparatus which is connected to the Internet, comprising:

a communication means for executing an access to or for receiving an access from a relaying server, located in the Internet, through a local network;

a control means for controlling said communication means so as to transmit a first passing information, to administrate said image forming apparatus, to said relaying server by executing said access to said relaying server at a predetermined timing; and

said control means for controlling said communication means so as to receive a second passing information, corresponding a state of said image forming apparatus, from said relaying server.

67. The administration apparatus of claim 66, wherein said local network has a connection to the Internet through a firewall server.

68. The administration apparatus of claim 66, wherein said first passing information includes ID information for identifying said image forming apparatus and job information for making said image forming apparatus a predetermined action.

69. The administration apparatus of claim 68, wherein said job information is transmission command information for requesting said image forming apparatus to transmit said second passing information to said relaying server.

70. The administration apparatus of claim 69, wherein said second passing information is inherent data of said image forming apparatus.

71. The administration apparatus of claim 68, wherein said job information includes at least an updating program or updating data for rewriting a program or data, stored in an administrated storage of said image forming apparatus.

72. The administration apparatus of claim 66, wherein said second passing information is inherent data of said image forming apparatus.

73. The administration apparatus of claim 72, wherein said inherent data includes usage history information of said image forming apparatus.

74. The administration apparatus of claim 72, wherein said inherent data is emergency information based on errors occurred in said image forming apparatus.